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ABSTRACT

The development of the dynamic skills approach at the University of Chicago as contrasted with the component skills approach to Stanford has shifted microteaching out of the "practical problems" arena and into a more central position between theory and practice. The Stanford model included three stages: general orientation, viewing of skill films, and the teach-supervision-reteach microteaching cycle itself. Often there had been no significant improvement between teach and reteach. After re-analysis and the decision that the basic weakness stemmed from the lessons used by the teachers not being sufficiently thought out, five stages were added between the initial orientation phase and the culminating experience of actual microteaching: 1) The Practicum--designed to show how a good lesson established expectations for student response and that the teacher could expect specific types of response if the questions were clear, the decision logically consistent, and the task generally applicable to something in the child's own experience; 2) Peer Group Microteaching--opportunity to test one of several lessons against peers and under peer supervision; 3) Seminar in Supervision of Microteaching--to train students to supervise their fellow teaching candidates; 4) Skills Session in Microteaching--a seminar on the nature of skills as dynamics of the lesson; 5) Pre-Teach Supervisor-Supervisee Conference--about the lesson to be taught. (A model lesson to demonstrate lesson design is appended.) (JS)

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MICROTEACHING AND TEACHER TRAINING

A REFINED VERSION

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INTRODUCTION

About two years ago we were first introduced to the micro-teaching system as it had been developed by Ryan and Allen at Stanford University. The Stanford model grew out of a highly behavioristic concept of human action which viewed teaching as a collection of skills and thus identified teacher training as, in part, developing the behaviors necessary to perform the teaching skills. The basic concept was much like that used in U. S. Armed Forces schools: tasks were analyzed in terms of their explicit behaviors and then the behaviors were taught to the student. In the service schools this concept worked well; highly complex skills were taught to massive numbers of men. Students with almost no background in highly specialized skills were taught in a matter of months to perform tasks which required much theoretical knowledge as well as manual dexterity.

The transfer of this concept of task analysis to analyzing teacher classroom behavior looked promising indeed. Techniques were soon developed at Stanford to provide feedback, the prime ingredient for behavioral analysis. Closed circuit television provided a method of recording the behaviors of teachers for analysis , and the amount of input needing analysis was controlled by reducing the length of teaching episodes, the numbers of students, and the space required. The micro-teaching situation, in short, provided teacher, student, and analyst with a manageable framework for change. The prospects for micro-teaching seemed bright.

As we began working with micro-teaching at the University of Chicago, several symptoms of ill health began to manifest themselves. In the first place, many trainees seemed unable to coordinate the lesson with the skills they were attempting to practice. Performance of a skill such as reinforcement seemed to do nothing to increase the ability of a student to handle a micro-lesson.

Moreover, the supervision seemed idiosyncratic; one supervisor's view of the lesson totally contradicted another's leaving the student confused and unsure of how to interpret his experience. A third symptom was the sense of unreality or "phoniness" engendered in the micro-teaching experience. Many teachers felt that the behaviors were too exaggerated or too patronizing; for example, the questioning skills often were used to force out a specific answer when telling the answer would have been more appropriate. Fourth, many of the teachers in training felt that the whole experience was too "gimmicky," that the television, for example, was more of a toy than an aid to good teaching. The fifth and last symptom was the inability of the supervisors and teachers to clearly distinguish the nature of the skills which they were supposed to be practicing. Few could really tell the difference between a probing question, a higher order question, and a divergent question, and one could not tell by viewing the performance which of the skills they were practicing.

Many of the teachers, and even the supervisors, doubted the value of such an experience as a method for improving teaching. The general response to micro-teaching was at best mildly positive. In the light of the difficulties involved in setting up a micro-teaching clinic (e.g. obtaining space, manning equipment, attaining a sufficient number of students, and scheduling teach and re-teach sessions) we began having doubts about the future of micro-teaching at the University of Chicago. If the benefits were so mixed, we reasoned, would the troubles be justified by the results?

These doubts lead to a rather intense re-analysis of micro-teaching (on the part of several of the graduate students connected with the micro-teaching operation at the U. of C.) As a result of this re-analysis, segments were added which over the long haul, had the effect of re-defining micro-teaching and

changing its goals and philosophy. These will be defined and explained below, and the rationale for each addition will be given. Before such an explanation is made, however, a short definition and description of the Stanford model should be made for comparative purposes.

The Stanford Model of Micro-Teaching

As micro-teaching was originally developed at Stanford, it called for three reasonably discrete stages of involvement for teachers in training. The first stage was a general orientation in which the clinic director explained the purposes of the clinic, instructed the subjects as to what would be expected of them in terms of time and teaching commitments, and the rewards inherent in undergoing a micro-teaching experience. A film was shown which explained the underlying rationale for micro-teaching, gave a short history of micro-teaching, and developed the behavioral psychology underlying micro-teaching by comparing it with task simulation as performed in other training operations such as pilot training, medical training, and training for the legal profession. Some actual micro-teaching experiences were also portrayed in the film in order to demonstrate the skill orientation of the micro-teaching experience. Usually, too, a demonstration of a simulated micro-teach was given with the staff taking on the roles of teacher, students, and supervisor. Of course, the orientation was generally a large group presentation.

The second stage of the Stanford micro-teaching clinic was generally administered to small groups or even to individuals, and it consisted of viewing skill films which had been produced at Stanford. These skill films were motion pictures made in order to identify specific skills such as reinforcement, probing questions, higher order questions, silence and non-verbal cues, and host of others. Generally

the skills were grouped in clusters: for instance, all of the questioning skills were grouped in one cluster of skills, as were management skills and a number of others. A second function of the film was to model the ways in which a good teacher would use those skills in a life-like teaching situation. By restricting the size of the group and the length of the film (about ten minutes apiece), the intention was to have the teachers view it several times and observe closely the behaviors and skills associated with these behaviors in order to transfer them into their own teaching. Peer group teaching was used in this phase, but imitation was held to be the most effective means of developing these skills.

The third phase was the micro-teaching itself. After sufficient time had been alloted for all to have seen either several of the movies or a few of them several times (depending upon individual need and ambition), students were brought in and micro-teaching cycles (teach-supervision-reteach) were set up. Usually each teacher practiced at least three skills - one skill per cycle, so most taught at least three times. Teachers were encouraged to teach as many times as they wanted to, little attention being given to the material taught. Any well-prepared lesson of limited duration was regarded as good for the micro-teaching experience.

The supervision given during these teach re-teach sessions was oriented mainly toward teacher behavior. The tape was used to isolate those behaviors which the supervisor thought could be improved or where the use of the skill had been overlooked or forgotten. The thrust of the supervision was to attempt to make the teacher aware of the skill in a simulated situation and thus to increase his arsenal of available responses or behaviors. The re-teach, following closely upon the heels of the supervision, was intended to let the teacher practice

immediately the new or suggested modifications in behavior which had been introduced through supervision.

The University of Chicago Model

The Stanford model looked strong for it incorporated several highly accepted psychological principles in its model design: 1) It was a highly involving process - the student was actively involved in his own learning; 2) Its goals were clear - there were definite performance expectations from the student; 3) It was self-paced - the student could proceed at his own rate and continue as long as he wished; 4) It minimized personal risk - the program was non-prescriptive; 5) It used reinforcement - the supervision was immediate in terms of time and augmented by a good feedback system (television). Moreover, the re-teach occurred shortly after the supervision, so the extinguishing effects of time would be minimized.

With these powerful reasons for expecting that micro-teaching should develop more sophisticated teaching styles, the mixed results were somewhat mystifying. All too often in the actual situation, however, there had been no significant improvement between teach and re-teach, and the change of pupil groups for the re-teach often seemed to re-cast the lesson so completely that the relationship between teach and re-teach was destroyed. The gain or loss between teach or re-teach often seemed more dependent upon the confidence and articulateness of one pupil in the group than it did upon the effect of supervision. If there was one fairly bright, articulate student in a group, the lesson often seemed a success. If such a pupil was lacking, the lesson often lagged, or was reduced to "off the top of the head" comments, or became a teacher lecture. The effects were frustrating to the teacher and led to no progress in skill building as defined in the goals of micro-teaching.

In our re-analysis at the University of Chicago, we decided that the basic weakness in micro-teaching stemmed from the fact that the lessons used by the teachers were not sufficiently thought out. We therefore added the first of five subsequent stages between the initial orientation phase and the culminating experience of actual micro-teaching.

Stage Three: The Practicum

All too often, on analyzing the tapes we found that the teachers taught micro-lessons which led nowhere. They were either too open-ended ("What do you think causes riots?") or too directionless ("Today we are going to talk about pollution. What is pollution?") to really cue the pupil as to what the appropriate responses could be. The teachers often had no real aims or objectives in mind, and, if reinforcement was the skill to be practiced, they frequently reinforced any response given indiscriminately. In order to address this problem, a practicum designed to articulate some of the qualities of a good lesson was instituted.

The practicum was designed to show how a good lesson established expectations for student response and that the teacher could expect specific types of responses if the questions were clear, the decisions logically consistent, and the task generally applicable to something in the child's own experience. The instructor gave a model lesson and then tried to make clear that the reinforcement pattern was strengthened by his use of the subject matter to justify his positive response. Teacher utterances such as, "That's good," "Terrific," "Right," or the host of others may be good, but they are better when the teacher uses the logic of the subject matter to justify such compliments; i.e., "That's a really good answer, Jim, because it allows us to see the specific difference

between...." In short, reinforcement is not just behavior but behavior in the context of a specific lesson which aims to move the group through a logical field from point X to point Y by weighting the amount of reinforcement and integrating it into the logic of the lesson. The same process was followed with the questioning skills using the same model lesson, thus relating two different skills. One of the most reinforcing things that a teacher can do is to consider the student response and give it back to the group as a new question, one worthy of group attention.

The net result of the practicum was that students in the teacher training program did begin to see the necessity for logically structuring their lessons and narrowing them enough so that the reinforcing behaviors could actually be used and built upon. As a logical consequence of this phase, there was more advance planning between those interested in micro-teaching and their supervisors. The actual teach and re-teach sessions were more profitable both for teacher and supervisor, and the lessons were definitely more interesting. The teacher evaluations of micro-teaching also rose markedly in comparison to earlier clinic evaluations.

Stage Four: Peer Group Micro-Teaching

Because the University of Chicago teacher training program is a pre-service program, there was a general reluctance among these teachers in training to parade their wares before a group (even a small group) of pupils. Therefore, in order to increase confidence, diminish the perceived risk-taking, and check the logic of the lesson, the prospective teachers were given an opportunity to test one or several lessons against their peers and under peer supervision. The feedback from peers enabled the prospective teachers to estimate their

chances for delivering a successful lesson to high school students. The supervision from peers was frank, including negative as well as positive comments, but it was well accepted. The prospective teachers did indeed seem to see this experience as a situation where mistakes could be made with little risk, and, in fact, several asked their faculty subject matter advisors to sit in on their peer group teaching and to criticize it.

There were two major results from this phase: one was, of course, a discernible rise in confidence for the actual micro-teach cycle. The second, originally unexpected, was the involvement of several of the subject matter faculty. This second result had the effect of reinforcing the subject matter logic and the skills as the dynamics of a lesson. Because we concentrated on the specific lesson and had carefully clarified its relation to the skill, the prospective teacher seemed to regard criticism as objective enough to involve little ego threat. It seemed to them to be a highly honest and beneficial experience which pointed them toward the "real" classroom.

Stage Five: Seminar in Supervision of Micro-Teaching

As the micro-teaching tended to grow in popularity and acceptance among the staff and prospective teachers, subsequent enrollment began to increase markedly. We decided to deal with the shortage of supervisors by training students to supervise their fellow teaching candidates. A seminar was held that dealt specifically with supervision, and those interested in micro-teaching supervision were invited to attend. In this seminar, tapes of previous micro-teaching lessons were shown, and certain principles of supervision were brought out. Would-be supervisors were asked to concentrate on the quality of interaction between the taped teacher and his students, first attempting to specify the objectives of the lesson viewed,

then isolating the dynamic elements of the lesson that seemed to account for its success or failure. Finally they were asked to evaluate the behaviors of teacher and students in terms of a particular skill dimension; for instance, by suggesting that the teacher may have probed a response that he had ignored, or asked a question in a different context, or phrased it more precisely. We were generally surprised at the consensus and fundamental agreement between the viewers, and, when people later did become supervisors, the supervision was amazingly "even." Tapes reviewed by several supervisors tended to produce substantively similar supervisory comments.

A second result of this phase was that the teachers who were trained as supervisors gained a great deal of insight into the preparation and presentation of their own lessons, and some of the best lessons given were given by those who were trained as supervisors. They also seemed to enjoy the act of supervision.

Stage Six: Skills Session in Micro-Teaching

A sixth phase, a seminar on the nature of skills as dynamics of the lesson has been defined and tested with a very small group of prospective teachers. Because this phase has been only tentatively tested, and because it would represent a total departure from the definition of teaching as purely behavior, we would prefer to cover this phase at a later time in a separate paper. This second paper is intended to put forward another hypothesis of teaching for interpreting classroom behavior based on the use of an organic structure of the lesson to explain the skills of teaching.

Stage Seven: Micro-Teaching Experience

The seventh stage of the MT clinic is, of course, the micro-teaching itself. Student teachers took their prepared lessons and presented them in short sessions

to groups of three, four or five pupils. Prior to the teach (and in contrast to the Stanford procedure), a pre-teach supervisor-supervisee conference was held about the lesson to be taught. The supervisor questioned the supervisee on the nature of the lesson to be taught and the skills to be examined. These sessions sought to establish a success criteria for the supervisee in the light of the aims of the lesson. Furthermore, the supervisee was expected to put the lesson in some larger context. For instance, if a science teacher intended to give a lesson concerning a definition of paleo-ecology, he would be asked about the relationship of this lesson to his total hypothetical science course: where it would fit in, what had preceded it, and what might follow it. Because every micro-lesson was seen as embedded in a longer course of study, the micro-teaching experience became more realistic. Thus the supervisee often found that he could revise his plans during the actual teach and re-teach in view of his pupils' responses, perhaps by bringing in some additional data or by discussing the content of future lessons.

From the experience of the pre-supervisory conference, teach, supervision and re-teach, along with analysis of tapes, a new concept was gradually added to micro-teaching. This was the concept of the nuclear lesson. The nuclear lesson concept represents a very concrete bridge between micro-teaching and "real" teaching. A truly good lesson holds the nucleus of several subsequent learning experiences, and in so far as it is good, this lesson will generate pupil questions and data input that enable several different lessons to be structured from it. The good nuclear lesson engenders a certain "set" that in turn generates responses within that set, which may take up several days of normal classroom activity. The lesson is an experience which enables the child to see a given problem in a certain way or think about an experience with a new frame

of reference. That frame of reference may well go beyond the specific boundaries of a given experience.

The teacher, though, if he is not in control of the lesson's logic, data, and expectations, may not be able to listen to, watch and evaluate the opportunities given him for significant interaction in an actual classroom situation. However, if he has practiced this lesson several times in the low-risk situation of the micro-teaching clinic and has gained control of it, he is less anxious and more able to concentrate on the actual quality of student response. With a repertoire of such lessons under control through low-risk practice and supervision, he may find a good deal of his year already pre-planned and he may succeed in involving the students in the teaching operation in a real way without the manipulation that often passes for student-teacher planning.

MICRO-TEACHING: A RE-EVALUATION FOR TEACHER EDUCATION

Teacher education programs generally seem to be caught in a bind between principles and practice. The teacher educator seems to face a complex paradox in his attempt to educate teachers. If he begins with the principles, they often appear to the student to be sterile, limited, and non-applicable. Prospective teachers do not have the experience on the teacher's side of the desk to supply the frames of reference in which the hypothetical principles work as data arranging instruments. They do not seem practical in the real work-a-day world. If, on the other hand, the student is subjected to practical problems in a real-life environment, the treatment of those problems and even the perceptions of the problem seem highly idiosyncratic; peculiar to the particular observer. The solution that one teacher works out may not be feasible or even possible for another. With so many elements making up the most simple classroom

construct, the transferability of perceptions and styles is so difficult that one has a very difficult task in abstracting any principle from the milieu. So, if one orients a teacher education program toward theory, he is damed for not making it practical. If he orients it toward practical problems, the course is then called "Mickey Mouse: or a cook-book recipe" type course.

Micro-teaching, as we have extended it, can mediate between these poles of theory and practicality. It introduces logic (of the lesson), theory (of psychological principles), and life problems (both of people involved and subject matter) in a contained, controlled blend where risks are minimized and supportive supervision is immediate. The development of the dynamic skills approach at the University of Chicago as contrasted with the component skills approach of Stanford has shifted micro-teaching out of the "practical problems" arena and into a more central position between theory and practice.

APPENDIX A

A Model Lesson to Demonstrate Lesson Design

Assume that a teacher wants to teach a lesson on metaphors to a seventh, eighth, or ninth grade class. In this lesson he wants to go beyond the rather formal and commonplace definition of the literary metaphor as "A figure of speech which makes a comparison without using 'like' or 'as'." What he wants the children to see through the use of some cliche-like methaphors is that the metaphor takes a certain property of one object or experience and compares that to similar properties of another experience or object. He also wants the students to form some metaphors of their own by abstracting certain properties from one realm or body of expression and applying it to another.

I. Metaphors commonly used:

   A. The hands of time

   B. The heart of the matter

   C. The shoulders of decision

   D. The long arm of the law

II. Problem in metaphors for pupils: Using Nature as reference point for your metaphors instead of the human body, let's design four metaphors. (Some pump-priming examples, if needed)

   A. The winds of _____

   B. The rocks of _____

   C. The seas of _____

III. In your own examples, you selected some pretty good ones, such as "a shower of blessings." Write in one quick paragraph or two how blessings are like a rain shower. Be sure you catch a property or two of an actual rain shower as you write your paragraph, for that will be what the paragraph will be judged on.

Interpretation of Lesson and Skills Used in Teaching Lesson

Essentially this lesson was used to illustrate four major points which are enumerated and explained below. The format used to explain them here does not quite correspond to the way in which the points were actually handled in that all four were done simultaneously with the teacher calling attention to each property even as the lesson was itself in progress. This was done to illustrate that a teacher could be in control of such things as reinforcement patterns, questioning skills and the like even as the lesson was in progress.

Objective One: The subject matter as a basis for student-teacher interaction.

In this lesson the prospective teacher was asked to see the specific relationship between the conceptual task of the lesson and expectations of student response. In discussing, for instance, the "hands of time," the instructor pointed out that hands had certain characteristics which other parts of the body did not have - extension, manipulation, ability to change configuration, the power to do work. The dialogue of the class then centered around how these properties were transformed through a metaphor into the concept of time. As this was going on, the instructor pointed out to the student teachers how their own expectations and sense of appropriate response was being developed, and how a channel of interaction was being established through the metaphor concept which structured the relationship between student and teacher. With each example of metaphor used, the quantity and quality of response increased in every session as student teachers began seeing the X to Y movement of the logical progression, and none had any trouble seeing that the metaphor was being defined as a comparison of properties. They easily isolated the particular properties

of "the heart of the matter," "the shoulders of decision," and "the long arm of the law." The instructor made the point that this lesson "worked" with seventh and eighth graders because the anatomical frame of reference for the metaphors was within the immediate experience of the child, so the lesson was proceeding from something known to something unknown, but in a logical systematic way.

The second part of the lesson, the instructor pointed out, withdrew a specific input but left part of the data. It also left the same process intact, and while the expectations on the pupils rose, the process remained fundamentally the same. The interaction structure of the classroom was maintained.

Objective Two: The definition of skills as learning dynamics

For this lesson two basic skills were used in analysis of the lesson: reinforcement and probing questions. The instructor sought to show the prospective teacher how the reinforcement patterns were not merely "canned" or rote utterances, but were really drawn from the nature of the lesson itself. For instance, when the instructor said, "Very good" to a student in response to his comment or answer, this could be somewhat reinforcing. However, when the instructor said, "Very good, Ron, because you called our attention to a relationship between the heart and the idea of first causes, and this is a more powerful notion than the heart as the center of things," he was reinforcing more strongly the student response because the logic of the reinforcement was taken right from the logic of the lesson. The instructor and the class would then seek out why this was superior reinforcement from the role utterance, such as "Good," and most groups decided, we believe correctly, that the reinforcement based upon logic was not arbitrary nor was it based merely upon the whim of the teacher. It (the reinforcement) stood on its own objectivity as being "justified reward." The

view that the reinforcement pattern was being developed in such a way as to develop the group interaction along the X - Y logical axis illustrated the skill as a learning dynamic, using the reinforcement to overcome the initial inertia of the group and starting it in motion toward the goal of the lesson and then accelerating the pace as the expectations became progressively clearer to the group.

The questioning skills were used in much the same way. The groups quickly became aware that the questions were being abstracted from a model of the lesson and that they were logically contiguous with the overall logic and the logic of the question which had gone before. They too were a most necessary part of the dynamic of the class and profoundly influenced the behavior of the class. When the pupils understood the question and how it fit into the overall task, the behavior of the class was indeed modified and interaction patterns clearly established.

A third observation was made regarding the relationship between skills as dynamics. In the course of the lesson, the instructor pointed out the reinforcing effects of a good probing question in response to a student's answer or question. The groups, in discussing why a question in response to a question was reinforcing, decided that this showed the student that his input was so important that the class would now take time to consider some aspect of that question in general class discussion and the resources of the entire class would be brought to bear on his initiating response. In this way, those running the micro-teaching clinic sought to lay open the model of the lesson to expose the dynamics which made up a classroom experience in terms of the relationship between skills and dynamics.

Objective Three: The properties of a good lesson as a pre-requisite to good micro-teaching (and good teaching in general).

As the lesson was taught and in the discussion afterwards (and already alluded to above), the lesson was presented as a model with some highly systematic properties. Among the properties of a good lesson were those presented in the model lesson. It had: a) A logic applied across a bounded field (the X - Y movement) b) A general pattern of behaviors for the teacher abstracted from that logic c) A general knowledge of background d) some non-arbitrary behavior expectations from the pupils. (Non-arbitrary in this sense means that certain logical sets in the lesson should cue some rather specific behavioral responses from the students: not a particular response but a logical type of response). While we are not claiming that this lesson model is a prescriptive model, yet for micro-teaching in particular, it does have validity in that it allows or permits the teacher to establish a relationship with new, strange students (to him) so that his experience in micro-teaching is not idiosyncratic with each new group of students. The properties included in this model lesson serve as enablers which enable students to clearly see the problem on which the teacher wishes to focus for that lesson. A poorly designed, directionless lesson too often led to shadow boxing between student teacher and pupil, and the groups were shown video tape of one or more such lessons in order to have them visualize the problems of overcoming the inertia of a newly constituted social group. Student teachers, viewing these tapes, found it very easy to criticize specific behaviors but very hard to actually make suggestions which would have improved the overall quality of the teaching performance. The reason for this, we judged, was that the lessons being viewed on the video tape were, for the most part, purposeless. The taped teacher had little idea of where he wanted the lesson

to go and of where he would be when he got there. The staff instructor pointed out the contrast between the model lesson and the one viewed on tape in terms of the reinforcement and questioning procedures, and all the groups easily saw that one set of questions (in the model lesson) was easily followed and developed upon while the taped lessons' questions seemed to go nowhere or possess no cues. There seemed to be an anarchy in the latter lessons which was quite apparent to the viewers, and the quality of interaction between teacher and student was marked by an obvious arbitrariness that made behavioral analysis quite meaningless. A strict behavioral control would have worked only if the teacher on tape could anticipate getting the same responses that he received the first time, and the probabilities of such an exact re-occurrence approaches zero.

In some of the clinics, several students had previously prepared a topic or idea for a possible lesson. The staff, with the group, would sometimes test these lessons against the model of the lesson presented. This seemed to work well, and most of the student teachers felt that the dialogue with the staff member and comparison with the model significantly improved their chances for teaching a good lesson and practicing the desired skills.

Objective Four: Defining the role of the supervisor and supervision in the micro-teaching model

The last major objective of the model lesson phase of the micro-teaching clinic was to define some sort of a baseline whereby the supervision sessions could be made more efficient and more meaningful both to the supervisor and supervisee. Here the relationship between lesson expectations and lesson performance was most clearly drawn. Again, the lesson model was used as the medium or network for pulling together the interaction between the supervisor and the

supervisee, and the point was made that good supervision was dependent upon the supervisor having a clear view of the intentions of the lesson and the expectations of the teacher in regard to pupil behavior within the field of those intentions. Then the behaviors which he saw of the supervisee and of the pupils had some meaning, and some non-arbitrary criteria could be applied to a specific sequence of teacher-pupil behaviors and possible alternatives suggested both in thinking about the lesson and in adopting appropriate teacher behaviors.

The skills, again viewed as dynamics of logically systematic activity, could then be seen in terms of behavioral options or choices, thereby increasing the supervisee's sense of control over the situation. It was in this sense that the act and role of supervision was defined.